CLAIMS:

1. A method of removing at least some of a material from a semiconductor substrate, comprising:

feeding a feed gas through an ozone generator to generate ozone from the feed gas; the feed gas comprising at least 99.999% O_2 (by volume); and

contacting the ozone or a fragment of the ozone with a material on a semiconductor substrate to remove at least some of the material from the semiconductor substrate.

2. The method of claim 1 further comprising irradiating at least some of the ozone with ultraviolet light prior to the contacting.

3. The method of claim 1 further comprising irradiating at least some of the ozone with ultraviolet light proximate the material.

4. The method of claim 1 wherein the material on the semiconductor substrate is photoresist.

5. The method of claim 1 further comprising mixing the ozone with water vapor prior to the contacting.

6. The method of claim 1 further comprising mixing the ozone with an organic solvent vapor prior to the contacting.

7. A method of removing at least some of a material from a semiconductor substrate, comprising:

feeding a feed gas through an ozone generator to generate ozone from the feed gas; the feed gas comprising O_2 and less than or equal to 0.001% N_2 (by volume); and

contacting the ozone or a fragment of the ozone with a material on a semiconductor substrate to remove at least some of the material from the semiconductor substrate.

8. The method of claim 7 further comprising irradiating at least some of the ozone with ultraviolet light prior to the contacting.

9. The method of claim 7 wherein the material on the semiconductor substrate is photoresist.

10. The method of claim 7 further comprising mixing the ozone with water vapor prior to the contacting.

11. The method of claim 7 further comprising mixing the ozone with an organic solvent vapor prior to the contacting.

12. A method of removing at least some of a material from a semiconductor substrate, comprising:

forming a mixture of ozone and organic solvent vapors in a reaction chamber; and

contacting at least some of the ozone and solvent vapors with a material on a semiconductor substrate to remove at least some of the material from the semiconductor substrate.

13. The method of claim 12 wherein the material on the semiconductor substrate is photoresist.

14. The method of claim 12 wherein the material on the semiconductor substrate is photoresist; wherein the semiconductor substrate comprises Al_2O_3; and further comprising exposing at least some of the Al_2O_3 to the ozone during the contacting.

15. The method of claim 12 wherein the material on the semiconductor substrate is photoresist; wherein the semiconductor substrate comprises platinum; and further comprising exposing at least some of the platinum to the ozone during the contacting.

16. The method of claim 12 further comprising providing a reservoir of volatile organic solvent within the reaction chamber and forming the solvent vapors from the volatile organic solvent.

17. The method of claim 16 wherein the volatile organic solvent is a liquid.

18. The method of claim 16 wherein the volatile organic solvent comprises acetone.

19. The method of claim 16 wherein the volatile organic solvent consists essentially of acetone.

20. The method of claim 16 wherein the volatile organic solvent comprises cyclohexanone.

21. The method of claim 16 wherein the volatile organic solvent consists essentially of cyclohexanone.

22. The method of claim 16 wherein the volatile organic solvent comprises a mixture of cyclohexanone and PGMEA.

23. The method of claim 16 wherein the volatile organic solvent comprises propylene glycol.

24. The method of claim 12 further comprising providing a reservoir of volatile organic solvent within the reaction chamber and heating the volatile organic solvent to form the solvent vapors from the volatile organic solvent.

25. A method of removing at least some of a material from a semiconductor substrate, comprising:

forming a mixture of ozone and organic solvent vapors in a reaction chamber;

irradiating at least some of the ozone with ultraviolet light to form ozone fragments from the ozone; and

contacting at least some of the ozone fragments and solvent vapors with a material on a semiconductor substrate to remove at least some of the material from the semiconductor substrate.

26. The method of claim 25 wherein the material on the semiconductor substrate is photoresist.

27. The method of claim 25 further comprising providing a reservoir of volatile organic solvent within the reaction chamber and forming the solvent vapors from the volatile organic solvent.

28. The method of claim 27 wherein the volatile organic solvent is a liquid.

29. The method of claim 27 wherein the volatile organic solvent comprises acetone.

30. The method of claim 27 wherein the volatile organic solvent comprises cyclohexanone.

31. The method of claim 27 wherein the volatile organic solvent comprises a mixture of cyclohexanone and PGMEA.

32. The method of claim 27 wherein the volatile organic solvent comprises propylene glycol.

33. The method of claim 25 further comprising providing a reservoir of volatile organic solvent within the reaction chamber and heating the volatile organic solvent to form the solvent vapors from the volatile organic solvent.

34. The method of claim 25 wherein the material on the semiconductor substrate is photoresist; wherein the semiconductor substrate comprises Al_2O_3; and further comprising exposing at least some of the Al_2O_3 to the ozone fragments during the contacting.

35. The method of claim 25 wherein the material on the semiconductor substrate is photoresist; wherein the semiconductor substrate comprises platinum; and further comprising exposing at least some of the platinum to the ozone fragments during the contacting.